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# Proposed just transition baseline variables: energy sector

**SYSTRA**

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# 1 Introduction

## 1.1 Energy sector – Key themes

The draft Energy Strategy and Just Transition Plan (ESJTP)[1] highlighted priority **themes** which emerged through stakeholder engagement that need to be addressed in order to achieve the draft outcomes for a just transition within the energy sector. These themes form the basis of our analysis of inequalities, as they have emerged as key themes during the stakeholder engagement exercise that informed the ESJTP.

The key themes from stakeholder engagement during the draft ESJTP development (as reported in the ESJTP Annex C) are as follows:

- Theme 1 – The role of communities
- Theme 2 – Affordability and access to cleaner energy
- Theme 3 – Supply chains and exports
- Theme 4 – Jobs and skills

For the purposes of the analysis of inequalities presented within this report, we have combined Theme 3 and Theme 4, as they cover similar topic areas in the context of inequalities. As such, the themes presented within this report are as follows:

- The role of communities
- Affordability and access to cleaner energy
- Jobs, skills and supply chains

Within those themes, a number of **sub-themes** were discussed with energy sector stakeholders as part of this project, see Appendix B for stakeholder organisation list.

The analysis presented within this report is broken down into the sub-themes.

[1] Scottish Government (2023), 'Draft Energy Strategy and Just Transition Plan', https://www.gov.scot/publications/draft-energy-strategy-transition-plan/documents/

## 1.2 Understanding categories of inequalities

Our research framework investigates several dimensions (called "equality groups" in this report) that can be linked to inequalities within the energy sector's transition to net zero. These dimensions have been grouped into three key "categories of inequalities". These categories were developed through stakeholder consultation, as they encapsulate the types of inequalities that can affect different groups of individuals in the context of a just transition. The three key categories of inequalities to investigate that have been identified are:

- **Protected characteristics**: The UK Equality Act 2010[2] lists nine protected characteristics against which it is illegal to discriminate: age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, and sexual orientation. A baseline of inequalities within the energy sector is needed to understand whether there are existing inequalities related to any of these protected characteristics.
- **Income disparities**: Income inequalities refer to the uneven distribution of income within a population. A baseline of inequalities can assess whether those on lower incomes may experience inequalities in aspects related to the energy sector.
- **Regional inequalities:** Regional disparities reflect differences between geographic areas in factors such as access to employment opportunities, levels of income, and public services like education or transportation. A baseline of inequalities can investigate whether there are any current regional disparities, comparing urban, rural, and islands communities.

The Fairer Scotland Duty ('the Duty'), set out in Part 1 of the Equality Act 2010, also requires public bodies in Scotland to actively consider how they can reduce inequalities of outcomes caused by socio-economic disadvantage[3], when making strategic decisions. People living with socio-economic disadvantages usually experience life on a low income compared to others in Scotland and have low wealth (including not having accessible savings), can experience factors which lead to material deprivation (being unable to access basic goods and services), and they can experience area deprivation (unhealthy living conditions due to geographic location). All of these factors contributing to socio-economic disadvantage have been investigated through our research framework and are captured by the three key categories of inequalities defined above.

## 1.3 Variables and data sources

For each energy sector sub-theme, one or more variable is identified to build a baseline for the current "state of the sector" in terms of inequalities, together with data sources suggested to measure it. For each variable we provide:

**Notes / commentary on data source(s)**

- What the variable measures.
- Why do we need to measure this variable to build a baseline?

[2] UK Government (2010), 'Equality Act 2010', https://www.legislation.gov.uk/ukpga/2010/15/contents

[3] For more details on inequalities of outcomes and socio-economic disadvantage, please see The Fairer Scotland Duty. Guidance for Public Bodies (2021): https://www.gov.scot/publications/fairer-scotland-duty-guidance-public-bodies/documents/

- What is the suggested data source / dataset to measure the variable?
- Why we are suggesting to use this dataset and how to use the dataset, including comparing / contrasting with other datasets?

**Discussion of the suitability / robustness / limitations of data chosen**

- Suggest if the dataset should be included in the baseline. Is the dataset "baseline ready"?
- If yes, explain why it is suitable, robust and complete.
- If it is not ready, explain improvements to make the dataset "baseline ready", e.g., combining different sources? Changing questions? More frequent data collection?
- If the dataset is not considered ready because of gaps in providing information for some equality group, explain:
    - If the gap should be filled and how;
    - If not, why there is no need to fill the gap.
- Mention any other dataset that was considered to build the baseline and explain why that dataset has been discarded.

Variables have been categorised as follows in terms of "baseline readiness":

- **Green:** the dataset identified to quantify or represent the "state of the sector" can be used as it is to build a baseline.
- **Amber:** a dataset to quantify or represent the "state of the sector" has been identified; however, it is not ready to be used in the baseline as it needs modifications or contains gaps**.**
- **Red:** a suitable dataset has not been identified to quantify or represent the "state of the sector". No data can be included in the baseline for such variable.

# 2 Overview of variables

| Section | Theme | Sub-theme | Variable | Data source |
|---|---|---|---|---|
| 3.1 | Role of communities | Community empowerment and local ownership in energy (a) | Participation in community-led energy initiatives across inequality groups | Community and locally owned energy in Scotland: 2021 report – Energy Saving Trust (2021) |
| 3.2 | Role of communities | Community empowerment and local ownership in energy (b) | Operational capacity by local authority area and ownership category for community-led energy initiatives | Community and locally owned energy in Scotland: 2021 report – Energy Saving Trust (2021) |
| 3.3 | Role of communities | Community participation in energy demand management strategies | Participation in energy demand management strategies and programmes across inequality categories | None |
| 4.1 | Affordability and access to cleaner energy | Equitable access to clean energy (a) | Percentage of households with access to clean / renewable energy sources across inequality categories | None |
| 4.2 | Affordability and access to cleaner energy | Equitable access to clean energy (b) | Percentage of households with no access to distributed energy, or which supplement distributed energy with self-generated power, per local authority | Sub-national estimates of properties not connected to the gas network, Department for Business, Energy & Industrial Strategy, 2021 |
| 4.3 | Affordability and access to cleaner energy | Equitable access to clean energy (c) | Percentage of households with no access to distributed energy, or which supplement distributed energy with self-generated power | Scottish Government Scottish House Condition Survey (SHCS, 2021) |
| 4.4 | Affordability and access to cleaner energy | Equitable access to clean energy (d) | Participation in energy demand management strategies and programmes across inequality categories | None |

| Section | Theme | Sub-theme | Variable | Data source |
|---|---|---|---|---|
| 4.5 | Affordability and access to cleaner energy | Energy poverty | Fuel poverty rates across inequality categories | Scottish Government Scottish House Condition Survey (SHCS, 2021) |
| 4.6 | Affordability and access to cleaner energy | Energy affordability | Energy affordability defined as the proportion of people finding it more difficult to keep up with energy bills compared by the previous years | YouGov affordability tracker 2022, Consumer Scotland, as reported in Scottish Energy Insights Coordination Group Report - (2023) |
| 5.1 | Jobs, skills and supply chains | Skill development and job opportunities (a) | Energy sector workforce composition across inequality categories | Census 2021 |
| 5.2 | Jobs, skills and supply chains | Skill development and job opportunities (b) | Workforce qualification in the energy sector across inequality groups | Sectoral skills assessment report (2022) on Energy |
| 5.3 | Jobs, skills and supply chains | Unlocking the supply chain | Full Time Equivalent (FTE) employment by sector supported by Scotland's renewable energy sector and regional breakdown | The Economic Impact of Scotland's Renewable Energy Sector - 2022 Update, October 2022, Fraser of Allander Institute |

# 3 The role of communities

## 3.1 Community empowerment and local ownership in energy (a)

| Variable | Data source | Baseline readiness | Data subsets | Data gaps |
|---|---|---|---|---|
| Participation in community-led energy initiatives across inequality groups | Community and locally owned energy in Scotland: 2021 report – Energy Saving Trust (2021) | • Amber | None | Age<br>Sex<br>Disability<br>Gender reassignment<br>Sexual orientation<br>Ethnicity<br>Religion<br>Marriage and civil partnership<br>Pregnancy and maternity<br>Income<br>Region |

### 3.1.1. Notes on data source

This variable gauges the extent of involvement in community-led energy initiatives across inequality categories.

Establishing a baseline through measuring this variable is essential to ascertain current engagement levels and to identify if there are any disparities in participation among different inequality categories.

It is desirable to use a specific dataset to provide a comprehensive view of community involvement in energy initiatives. However, no such dataset has been identified.

### 3.1.2. Discussion of the suitability / robustness / limitations of data chosen

**Community and locally owned energy in Scotland: 2021 report – Energy Saving Trust (2021) is not considered a fully adequate data source to build the baseline for this variable.**

The report provides estimates of community and locally owned renewable energy capacity by ownership category and technology operational in Scotland at the end of December 2021. A number of sources have been used to compile the database, including surveys targeting local authorities, delivery organisations and housing association, and Scottish Government data on projects that had received funding through the Low Carbon Infrastructure Transition Programme (LCITP).

As data are illustrated in the report, it is not possible to understand if the organisations owning renewable energy capacity falls within any inequality categories. Reviewing the data compiled

within the report to identify specific organisations can help discerning patterns of representations within inequality categories, which then aids in establishing a baseline for this variable.

Alternatively, if a review of the Energy Saving Trust database as suggested above does not fill the data gap identified, data from Scottish Government funding schemes supporting community and locally-owned renewable energy should be reviewed.

Specifically, the categorisation of the applying organisation – whether the organisation falls within any inequality categories – should be a distinct requirement within the funding application. This adjustment will not only enrich the baseline but also assist in monitoring shifts in the representation of inequality groups over time.

## 3.2 Community empowerment and local ownership in energy (b)

| Variable | Data source | Baseline readiness | Data subsets | Data gaps |
|---|---|---|---|---|
| Operational capacity by local authority area and ownership category for community-led energy initiatives | Community and locally owned energy in Scotland: 2021 report – Energy Saving Trust (2021) | • Green | Region | Age<br>Sex<br>Disability<br>Gender reassignment<br>Sexual orientation<br>Ethnicity<br>Religion<br>Marriage and civil partnership<br>Pregnancy and maternity<br>Income |

### 3.2.1. Notes on data source

This variable quantifies the regional spread and ownership classifications of community-led energy initiatives in Scotland, focusing on the geographical allocation as well as the spectrum of owning entities.

Building a baseline using this variable can be used to understand the balance in the distribution of such initiatives across different local authority areas in Scotland and to ensure equitable representation of ownership categories.

The preferred dataset for this assessment is collected by the Energy Saving Trust in their "Community and locally owned energy in Scotland 2021 Report".

### 3.2.2. Discussion of the suitability / robustness / limitations of data chosen

**Energy Saving Trust (2021) data on operational capacity by local authority area and ownership category should be used as the baseline for this variable.**

The Energy Saving Trust report's metrics have been pivotal since 2011 in tracking progress towards the Scottish Government's targets for renewable energy capacity in communities or for local ownership. The dataset is updated annually and consolidates many other datasets, ensuring that it accurately covers the Scottish Government's definition of 'community and locally owned renewable energy'.

The dataset, in its current state, is well-suited as a baseline due to its consistent updates and comprehensive coverage. However, to enhance its readiness, more detailed breakdowns could be provided within the dataset, such as more specific categorisations based on ownership types and how these represents inequality categories.

## 3.3 Community participation in energy demand management strategies

| Variable | Data source | Baseline readiness | Data subsets | Data gaps |
|---|---|---|---|---|
| Participation in energy demand management strategies and programmes across inequality categories | None | • Red | None | Age<br>Sex<br>Disability<br>Gender reassignment<br>Sexual orientation<br>Ethnicity<br>Religion<br>Marriage and civil partnership<br>Pregnancy and maternity<br>Income<br>Region |

### 3.3.1. Notes on data source

This variable sheds light on the extent to which different inequality categories are engaged with and are benefitting from energy demand management strategies and schemes.

Establishing a baseline using this measurement ensures that all societal sectors, as represented by the inequality categories, have equitable access to and benefit from energy management initiatives.

There is currently no robust and representative data source to appropriately capture this variable. There are partial data sources such as the Scottish House Condition Survey: 2021 that include information on some energy demand management strategies, such as pre-paid meters and building energy efficiency, but these cannot be used to create a complete picture covering the wide range of energy demand management measures within inequality categories.

### 3.3.2. Discussion of the suitability / robustness / limitations of data chosen

A complete and robust data source to measure this variable has not been identified.

Energy demand management strategies and programmes include a wide variety of techniques and approaches, such as energy efficiency improvements of electrical equipment, demand response programmes and smart grid technologies (e.g. smart meters).

There is a clear need to put in place a framework to obtain participation rates in demand response programmes with a breakdown by groups and granularity within the inequality categories. Local Energy Scotland would be an ideal body to take up this role.

It is not deemed possible to integrate data collection for this variable in the SHCS or Census, due to the variety of demand management strategies that would need to feature in the questions for adequate coverage.

# 4 Affordability and access to cleaner energy

## 4.1 Equitable access to clean energy (a)

| Variable | Data source | Baseline readiness | Data subsets | Data gaps |
|---|---|---|---|---|
| Percentage of households with access to clean / renewable energy sources across inequality categories | None | • Red | N/A | Age<br>Sex<br>Disability<br>Gender reassignment<br>Sexual orientation<br>Ethnicity<br>Religion<br>Marriage and civil partnership<br>Pregnancy and maternity<br>Region<br>Income |

### 4.1.1. Notes on data source

The variable quantifies the accessibility of clean or renewable energy sources, like solar, wind, or hydroelectric power, for households segmented by different equality groups.

Establishing this baseline would determines if the progression towards clean energy is distributed uniformly across societal groups or if certain segments face disparities.

### 4.1.2. Discussion of the suitability / robustness / limitations of data chosen

**A complete and robust data source to measure this variable has not been identified.**

Since the Scottish House Condition Survey (SHCS, 2021) already includes questions regarding energy sources for eating and cooking in its “Services and Fitting” section, it may be reasonable to include a question on gas and electricity energy contracts, to understand if people are aware of the type of energy they are buying, and if that is considered clean or not. An appropriate wording for

the question should be identified to ensure “clean energy” is correctly defined and enables the definition of a baseline for this variable.

## 4.2 Equitable access to clean energy (b)

| Variable | Data source | Baseline readiness | Data subsets | Data gaps |
|---|---|---|---|---|
| Percentage of households with no access to distributed energy, or which supplement distributed energy with self-generated power, per local authority | Sub-national estimates of properties not connected to the gas network, Department for Business, Energy & Industrial Strategy, 2021 | • Amber | Region | Age<br>Sex<br>Disability<br>Gender reassignment<br>Sexual orientation<br>Ethnicity<br>Religion<br>Marriage and civil partnership<br>Pregnancy and maternity<br>Income |

### 4.2.1. Notes on data source

This variable would quantify households which do not currently have access to distributed energy resources, or that need to supplement distributed energy with other sources. It is important to understand the geographical distribution and characteristics of these households to build a baseline, as there may be regional disparities in the benefits arising from clean energy distribution for people not connected to the gas grid.

### 4.2.2. Discussion of the suitability / robustness / limitations of data chosen

**Sub-national estimates of properties not connected to the gas network, Department for Business, Energy & Industrial Strategy, 2021, is not considered a fully adequate data source to build the baseline for this variable.**

Whilst the dataset provides the distribution of household not connected to the gas grid by Local Authority, it does not provide any information about the household composition and hence is not deemed as an adequate data source to build the baseline.

## 4.3 Equitable access to clean energy (c)

| Variable | Data source | Baseline readiness | Data subsets | Data gaps |
|---|---|---|---|---|
| Percentage of households with no access to distributed energy, or which supplement distributed energy with self-generated power | Scottish Government Scottish House Condition Survey (SHCS, 2021) | • Amber | Age<br>Sex<br>Disability<br>Ethnicity<br>Religion<br>Marriage and civil partnership<br>Income<br>Region | Gender reassignment<br>Sexual orientation<br>Pregnancy and maternity |

### 4.3.1. Notes on data source

This variable would quantify households which do not currently have access to distributed energy resources, or that need to supplement distributed energy with other sources. It is important to understand the socio-economic characteristics of these households to build a baseline, as they may not benefit from clean energy distribution as households connected to the grid, consequently facing disparities.

### 4.3.2. Discussion of the suitability / robustness / limitations of data chosen

Scottish House Condition Survey (SHCS) data sources of energy used in dwellings should be used as the baseline for this variable; however, the way the data are collected can be enhanced.

Question ES2A of the SHCS, asks people if their dwelling uses any energy from sources other than the national grid. This gives an indication of households which supplement distributed energy with other sources of power, however it is not made clear anywhere in the survey if this is their only source of power. To fill this gap, we suggest adding a screening question to distinguish households connected to the national grid to households that are not.

Given the Survey is now part of the Scottish Household Survey, undertaken annually, the fuel poverty estimate can be, in theory, broken down by each inequality group – if the sample size allows for a statistically significant segmentation.

SHS data do not provide information on Gender reassignment, Sexual orientation, and Pregnancy and maternity groups. To address the lack of data around Gender reassignment and Sexual orientation, we suggest the “gender identity” question of SHS (HA6) to be split into two questions mirroring Q4 (gender reassignment) and Q8 (sexual orientation) of the Census 2021 questionnaire in future SHS surveys.

As Pregnancy and maternity is a short-term status, it may not be cost effective to add a question around this on the SHS. Other sources of information, like dedicated academic studies or reports should be undertaken or identified to understand possible negative impacts on pregnant women of lack of access to the national grid.

## 4.4 Equitable access to clean energy (d)

| Variable | Data source | Baseline readiness | Data subsets | Data gaps |
|---|---|---|---|---|
| Participation in energy demand management strategies and programmes across inequality categories | None | • Red | None | Age<br>Sex<br>Disability<br>Gender reassignment<br>Sexual orientation<br>Ethnicity<br>Religion<br>Marriage and civil partnership<br>Pregnancy and maternity<br>Income<br>Region |

### 4.4.1. Notes on data source

This variable assesses the extent to which different inequality categories are engaged with and are benefitting from energy demand management strategies and schemes.

Establishing a baseline using this measurement ensures that all societal sectors, as represented by the inequality categories, have equitable access to and benefit from energy management initiatives.

There is currently no robust and representative data source to appropriately capture this variable. There are partial data sources such as the Scottish House Condition Survey: 2021 that include information on some energy demand management strategies, such as pre-paid meters and building energy efficiency, but these cannot be used to create a complete picture covering the wide range of energy demand management measures within inequality categories.

### 4.4.2. Discussion of the suitability / robustness / limitations of data chosen

**A complete and robust data source to measure this variable has not been identified.**

Energy demand management strategies and programmes include a wide variety of techniques and approaches, such as energy efficiency improvements of electrical equipment, demand response programmes and smart grid technologies (e.g. smart meters).

There is a clear need to put in place a framework to obtain participation rates in demand response programmes with a breakdown by groups and granularity within the inequality categories.

It is not deemed possible to integrate data collection for this variable in the SHCS or Census, due to the variety of demand management strategies that would need to feature in the questions for adequate coverage.

## 4.5 Energy poverty

| Variable | Data source | Baseline readiness | Data subsets | Data gaps |
|---|---|---|---|---|
| Fuel poverty rates across inequality categories | Scottish Government Scottish House Condition Survey (SHCS, 2021) | • Green | Age<br>Sex<br>Disability<br>Gender reassignment<br>Sexual orientation<br>Ethnicity<br>Religion<br>Marriage and civil partnership<br>Pregnancy and maternity<br>Income<br>Region | Region*<br>See Discussion 4.5.2 |

### 4.5.1. Notes on data source

This variable tracks the prevalence of fuel poverty among different inequality categories, helping to gauge the impact of initiatives designed to alleviate energy poverty.

This variable would provide an estimate of fuel poverty rates across inequality categories, according to the fuel poverty definition contained in the Fuel Poverty (Targets, Definition and Strategy)(Scotland) Bill.

Measuring this variable will help understand if people within some inequality categories struggle to afford maintaining adequate cooling and heating in their homes. The definition of fuel poverty used for this variable only covers fuel needs within the home, and not fuel needs related to transport.

The suggested data source for this variable is the Scottish House Condition Survey (SHCS), which is part of the Scottish Household Survey (SHS).

### 4.5.2. Discussion of the suitability / robustness / limitations of data chosen

**Scottish House Condition Survey (SHCS) 2021 data on fuel poverty estimates should be used as the baseline for this variable.**

The dataset provides a clear definition of fuel poverty and explains assumption made to estimate fuel poverty rates. Given the Survey is now part of the Scottish Household Survey, undertaken annually, the fuel poverty estimate can be, in theory, broken down by each inequality group – if the sample size allows for a statistically significant segmentation. This has been done for example, for the House Condition Survey 2019.

The 2021 report, illustrating the data analysis findings, recognises the presence of data limitations due to the change in data collection approach for the 2021 SHCS (caused by Covid-19 restrictions) and by the fact that the energy poverty estimates do not take into account energy price increases that occur in 2022 and the 2023 changes in energy price caps.

As such, whilst the most recent dataset does not provide an up-to-date picture of fuel poverty estimates, and is not able to provide statistically significant results of every equality category in analysis, the methodological soundness and the link to the Scottish Fuel Poverty Targets makes this dataset suitable estimate and monitor fuel poverty in the energy sector.

*It is important to note that local authority estimates of fuel poverty have not been produced due to the lack of 2020 data, representing a gap in the current state of the sector under this variable. However, local authority estimates based on a three-year average for 2022 to 2024, will be published in early 2026. This will fill the existing data gap for this variable.

## 4.6 Energy affordability

| Variable | Data source | Baseline readiness | Data subsets | Data gaps |
|---|---|---|---|---|
| Energy affordability defined as the proportion of people finding it more difficult to keep up with energy bills compared by the previous years | YouGov affordability tracker 2022, Consumer Scotland, as reported in Scottish Energy Insights Coordination Group Report - (2023) | • Amber | Age<br>Sex<br>Region<br>Income | Disability<br>Gender reassignment<br>Sexual orientation<br>Ethnicity<br>Religion<br>Marriage and civil partnership<br>Pregnancy and maternity |

### 4.6.1. Notes on data source

This variable would measure the impact over time of regulated energy retail market price increases on energy consumers resident in Scotland, to help understanding if this has a disproportionate impact on specific inequality categories.

This variable would help measure impacts of changing fuel prices on those groups that are not necessarily affected by energy poverty as per the Scottish Government definition, but are still impacted by rising energy prices. This variable will be particularly important when renewables will represent a higher share in the Scottish energy mix.

The suggested data source for this variable is the YouGov affordability tracker (2022).

### 4.6.2. Discussion of the suitability / robustness / limitations of data chosen

**The YouGov affordability tracker (2022) is not considered a fully adequate data source to build the baseline for this variable**, as some key protected characteristic groups that are more likely to fall into lower income groups, such as disabled people and ethnic minorities, are not identified in this dataset.

As Consumer Scotland is planning on publishing the tracker every year, it is suggested to consult with Consumer Scotland to include in their survey demographic data to allow segmentation for other protected characteristics, as well as boosting the sample size to ensure robust data segmentation can be undertaken for each group.

# 5 Jobs, skills and supply chains

## 5.1 Skill development and job opportunities (a)

| Variable | Data source | Baseline readiness | Data subsets | Data gaps |
|---|---|---|---|---|
| Energy sector workforce composition across inequality categories | Census 2021 | • Green | Age<br>Sex<br>Disability<br>Gender reassignment<br>Sexual orientation<br>Ethnicity<br>Religion<br>Marriage and civil partnership<br>Income<br>Region | Pregnancy and maternity |

### 5.1.1. Notes on data source

This variable would measure the representation of inequality categories in the energy sector job market. This variable needs to be measured to build a baseline to understand possible impacts of changes in the job market on inequality categories.

The suggested dataset to measure this variable is Census 2021. Workforce data are broken down by Standard Industrial Classification (SIC) 2007 codes. There is no current strict definition of energy sector by specific industries in labour market surveys and in Census results; as such, we suggest considering the following SIC 2007 codes to develop the baseline:

- industry B: Mining and Quarrying,
- industry D: Electricity, Gas, Steam and air conditioning and
- industry E: Water supply; sewerage and waste management

This is consistent with the **Growth sector briefing (2023)** and the **Energy Sectoral Skills assessment (2022)**, which define SIC codes to be part of the energy sector broadly classified within these industry classifications. Both of these reports recognise that the renewable energy industry does not have an SIC code for statistical reporting purposes.

### 5.1.2. Discussion of the suitability / robustness / limitations of data chosen

**Census data should be used as part of the baseline for the current state of the sector.**

The Census provides more granular data than annual population survey thanks to its bigger sample size.

In terms of monitoring, according to the expected timescale of the policy impacts that the Scottish Government wants to measure using this variable, Census data can be used to monitor longer terms impacts as it is collected every 10 years, whilst annual population survey can be used to

monitor impact on policies which are expected to have a greater impact in the shorter term, as it is collected annually.

As pregnancy and maternity is a short-term status, it may not be cost effective to add a question around this protected characteristic on either annual population surveyor Census. Other sources of information, like dedicated academic studies or reports, could be identified or commissioned to understand if a change in the job market composition of the energy sector can have a negative impact on pregnant women.

## 5.2 Skill development and job opportunities (b)

| Variable | Data source | Baseline readiness | Data subsets | Data gaps |
|---|---|---|---|---|
| Workforce qualification in the energy sector across inequality groups | Sectoral skills assessment report (2022) on Energy | • Amber | None | Age<br>Sex<br>Disability<br>Gender reassignment<br>Sexual orientation<br>Ethnicity<br>Religion<br>Marriage and civil partnership<br>Pregnancy and maternity<br>Region<br>Income |

### 5.2.1. Notes on data source

This variable would measure the level of education in the energy sector workforce, and how the level of education varies across inequality categories.

Establishing a baseline using this measurement will help understanding if some equality groups are not represented in the energy sector job market and if this is linked to their level of education.

The suggested dataset to measure this variable is the Energy Sectoral Skills Assessments (SSA) 2022.

*In addition to data on workforce qualification, Sectoral skills assessment report (2022) on energy provides regional statistics on current employment in energy sector across Scotland and in addition also provides statistics on current job vacancies posted online, within the energy sector.

### 5.2.2. Discussion of the suitability / robustness / limitations of data chosen

**The data contained in the Sectoral skills assessment report (2022) on Energy is not considered a fully adequate data source to build the baseline for this variable.**

This dataset cannot be used as it stands to build a baseline, as it does not provide segmentation per the inequality categories.

Workforce qualification data in the energy sector could be extracted from the Census 2021; however, the Sectoral skills assessment 2022 is deemed more suitable to build a baseline as it provides forecasts that are based on a variety of sector-specific data sources, and not only on Census data analysis.

To fill this data gap, it is recommended that the Scottish Government consults with Skills Development Scotland to understand if information on equality categories can be included in their forecasts.

## 5.3 Unlocking the supply chain

| Variable | Data source | Baseline readiness | Data subsets | Data gaps |
|---|---|---|---|---|
| Full Time Equivalent (FTE) employment by sector supported by Scotland's renewable energy sector and regional breakdown | The Economic Impact of Scotland's Renewable Energy Sector - 2022 Update, October 2022, Fraser of Allander Institute | • Amber | None | Region |

### 5.3.1. Notes on data source

This variable would measure the economic impact of renewable energy technologies in terms of number of jobs created.

Establishing a baseline using this measurement will help understanding to what extent renewables companies support economic activity across the economy via the interlinked supply chains involved in producing their output, and if these beneficial economic impacts are equally distributed across Scotland.

The suggested dataset to measure this variable is the estimates dataset produced by the Fraser of Allander Institute, as reported in The Economic Impact of Scotland's Renewable Energy Sector - 2022 Update, October 2022.

### 5.3.2. Discussion of the suitability / robustness / limitations of data chosen

**The data contained in The Economic Impact of Scotland's Renewable Energy Sector is not considered a fully adequate data source to build the baseline for this variable.**

Whilst the dataset provides an insight on estimated economic impacts of renewables, the lack of segmentation on a regional basis does not allow for an understanding of distributional impacts.

Different approaches to fill this gap could be discussed, such as looking at the current regional distribution of FTE employments for each industry across Scotland (looking at Census 2021 data) and proportionally distribute the renewable energy sector jobs per each industry, and subsequently combining them to get an overall estimation of FTE jobs generated per region.

Due to the large number of data sources used to develop these estimates, the Fraser of Allander Institute should be approached for clarification on the methodology used for their estimates and to understand possible updates to the modelling exercise to enable the creation of a baseline for this variable.

# 6 Appendices

## Appendix A - List of relevant data sources

1. Census (2021)
2. Community and locally owned energy in Scotland: 2021 report – Energy Saving Trust (2021)
3. Draft Energy Strategy and Just Transition Plan(2023)
4. Fraser of Allander Institute -The Economic Impact of Scotland's Renewable Energy Sector (2022)
5. Department for Business, Energy & Industrial Strategy (2021)
6. Scottish Government Scottish House Condition Survey (SHCS, 2021)
7. Scottish Government Scottish House Condition Survey (SHCS, 2019)
8. Scottish Household Survey (2021)
9. Sectoral Skills Assessment – Energy (2022)
10. Fuel Poverty (Targets, Definition and Strategy) Scotland Act (2021)
11. Consumer Spotlight: Energy Affordability Tracker (2022)
12. Growth sector briefing (2023)

## Appendix B – List of stakeholder organisations

1. Community Energy Scotland
2. CoSLA
3. Energy Action Scotland
4. Fuel Poverty Advisory Panel
5. Improvement Service
6. Inclusion Scotland
7. Isle of Mull renewables investments
8. Just Transition Partnership
9. Local Energy Scotland
10. Scottish Islands Federation
11. Scottish Power
12. Scottish Renewables
13. Scottish Rural Action

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